

Island Rock Hounds, Inc.

ROCK BOTTOM FACTS

November 2014

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Bellmore Memorial Library
 2288 Bedford Avenue
 Bellmore, NY 11710

President's Message

Hello Fellow Rockhounds,

Last month the club had a craft that may not ever be easily replicated, scrimshaw. The regulations surrounding this Americana craft have changed and the ability to buy kits like the ones used at the meeting are now much more difficult to obtain. I am sorry I was not there but heard everyone enjoyed the craft. I also heard that we have two new members Johnda Fessare of Garden City Park and Irene Stern of Port Jefferson. I look forward to meeting them at the next meeting. This month we will be learning about Mining in America with Cheryl. With her background as a geologist and her many trips it should be an interesting evening.

At the board meeting we began discussing the upcoming show. One of the topics that came up was the need for volunteers and how they can help. Just in case I have not mentioned this before, please remember that volunteering does not only mean long hours working the show. There are many other jobs that must be done, like helping with the Friday night food, or helping to create and distribute flyers and place signage.

So please come to the meeting in November to learn about mining but also to see how you can help OUR club.
 See you on Thursday – November 6th

Janice Kowalski
 President, Island Rockhounds

Welcome to our newest members:

Johnda Fessare

Irene Stern

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2014- 2015 UPCOMING EVENTS

November 8-9 **New York Mineral Club**
Holiday Inn, Manhattan

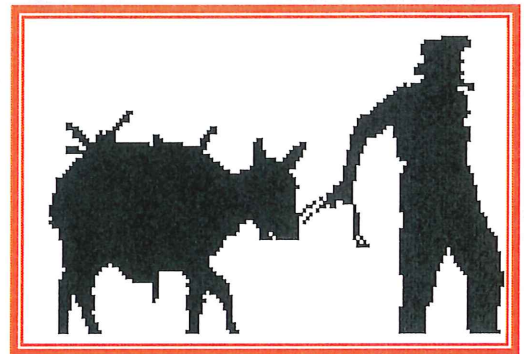
December 6-7 **Suffolk Gem & Mineral Club**
Our Lady of Mt. Carmel, Patchogue, NY

March 14-15 **IRH Annual Gem, Mineral, Fossil & Jewelry**
Old Bethpage Restoration Village

Upcoming Field trips:

March 27-29: EFMLS 2015 Convention
& Field Trip to Reel Mine Hickory, NC

Anyone with any ideas for future trips, please see Cheryl.



*Happy
Birthday to
our
November
Babes!*

Anna Andersen
Johnda Fessare
John Garceau
Susan Melazzi
John Owens

Hospitality Corner:

Thanks to Joan Murray for the
October Refreshments –

Please volunteer for a month!

Holiday Party

At the September meeting, members voted for the party to be held December 10th.
The party will be held at Olive Garden since many members found the location and
service enjoyable-

BETWEEN A ROCK & A HARD PLACE:

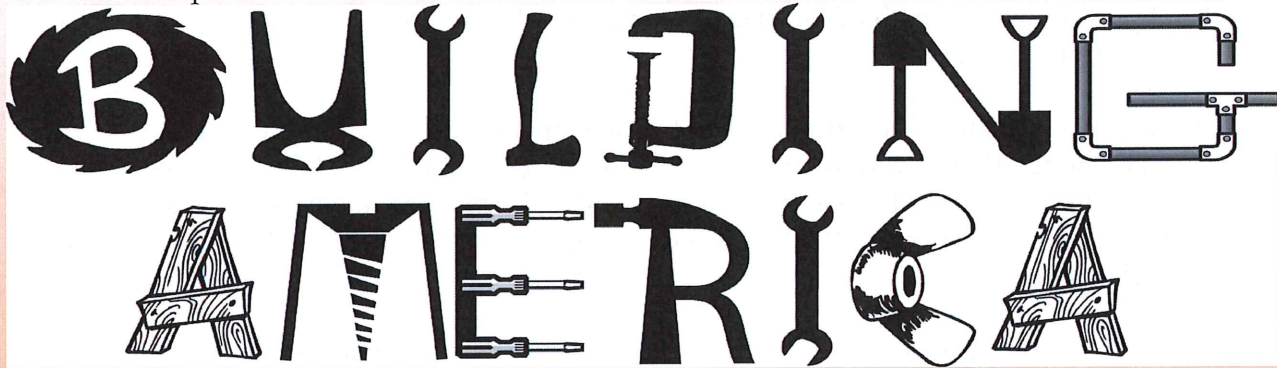
A SYNOPSIS OCTOBER'S MEETING:

Thanks to John King for teaching us the art of scrimshaw. Kits were purchased by members who had an enjoyable evening.

NEW BUSINESS:

NOVEMBER 6TH – BUILDING AMERICA- MINING

Cheryl will be speaking about the importance and impact mining had on building America. Building America was the theme the Board chose for the Old Bethpage Fair and will incorporate this theme in future events as well!



Thanks to member, Mary Haugh and her sister for this incredible logo for our event! Please note that each letter is a different tool or piece of hardware.....
Bravo!!!

IMPORTANT:

November's Meeting has been changed to Thursday, November 6th, due to conflict at the Library

AS A REMINDER:

Please wear your IRH badge at the meetings! We have new members and it would help everyone with matching the names with the faces! Also, as an incentive, if you wear our badge you will be eligible for an additional chance to win the monthly raffle.

If you misplaced your badge, the cost of the replacement badge is \$1.00. Please speak to Janet Zenk (Membership).

Cheryl Neary

Editor, Island Rockhounds Newsletter

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On the Road Again-

The geology of Massachusetts, Connecticut and Rhode Island includes a volcanic arc, which over time traveled from south of the equator north; a series of collisions between land masses; mountain building events, known as orogenies, and the distortion of land masses, through such processes as glaciations, and erosion of the interior and coastline through both lacustrine and aeolian processes and through the metamorphic process.

During the periods of glaciations, massive ice flows followed the contours of the land, altering the land, as glaciers located in New England pushed southward beyond the southern coasts of Massachusetts, Connecticut and Rhode Island scouring the bedrock with striations. Boulders, sand and gravel were carried as much as hundreds of miles.

During the peak period of glaciations, the ocean waters were trapped in the ice sheets thereby lowering the depth of the oceans approximately 450 feet. The shoreline was 25 – 75 miles from the current coast.

The last two glaciations occurred in New England approximately 55,000 and 18,000 years ago. As the ice flowed towards the coastline of the present day New England states, the bedrock of the Grenville formation was uncovered and many geographical landmarks were created such as Narragansett Bay, Long Island, Long Island Sound, Block Island, Nantucket and Cape Cod.

As the glaciers melted, various moraines were left behind. Moraines are deposits of soil, rocks and gravel that were pushed or carried by the glaciers. The types of moraines are known as “terminal”; “lateral” and “ground”. The same moraine responsible for the formation of Block Island, the Ronkonkoma Moraine- a terminal moraine, approximately 55,000 years ago, extends eastward to Martha’s Vineyard and Nantucket Island and westward to southern Long Island and into New Jersey.

Many of you may remember the various field trips that the Island Rockhounds have ventured on in past years. Quite a few times we spent hours in Roxbury for garnets, especially at the Green’s Farm which may now be closed to collecting. One particular time, Jeannie Cascio decided to rest I think on top of a turned over pail. As she sat there she noticed something shiny- and of course- it was the best garnet found that day! Large 1” almandine garnet crystals have been found in both the hard schist matrix or loose in the soil. The dodecahedral garnet crystal is a dark red to black color.

Another great field trip was to Avery Point, where we visited the University of Connecticut – Department of Marine Sciences. Janet Zenk’s son-in-law is researching algae for medicinal purposes and escorted around the campus.

"Petrified Thoughts from the West"



Hi to all my rockhound friends,

Weather has cooled down to the 70's and 80s right now and it is really delightful. I have a special article this month from a friend geologist who I happen to find out was involved in the construction and geology location of the Grand Canyon Skywalk.

The Grand Canyon Skywalk is a transparent horseshoe-shaped cantilever bridge and tourist attraction in Arizona near the Colorado River on the edge of a side canyon in the Grand Canyon West area of the main canyon.

John Peck was the consulting geologist on the foundation and surrounding canyon cliff formations. Below is his report and his results of his geological investigation.

Kathy

FOUNDATION OF THE GRAND CANYON SKYWALK

By John H. Peck, Consulting Geologist, Las Vegas, NV

The Skywalk at the west rim of Grand Canyon is built on two steel cantilevered box beams that extend seventy feet beyond the canyon rim. The glass-bottomed walkway is located on the Hualapai Indian Reservation in Mojave County, Arizona. A glass floor and glass sides allow visitors to view the canyon's depth of 4000 feet, the Colorado River and the surrounding Grand Canyon cliffs without obstruction. The horseshoe-shaped beams are positioned on four piers composed of sets of twenty two 2.5 inch steel threaded micropiles drilled and grouted 44 feet into the Mississippian-age Redwall Limestone and incorporated in massive concrete caps. The piers near the cliff at the canyon's edge also have three 40 foot steel tiebacks drilled and grouted at 30 degrees below the horizontal away from the direction of the cliff face. A rockbolt scheme was devised to further stabilize a wedge of rock near the southeast pier because of intersecting rock joints (natural fractures) that produced a wedge failure about 35 feet below the cliff top in the past.

The limestone at the site is of marine origin and contains many fossils of Mississippian age. Although the surface of the limestone is very reddish brown, giving it the name of the "Redwall", the real color of the rock is light gray. Overlying rock of the Permian Supai Group consists of red shale and sandstone and erosion of these rocks has colored the surface of the limestone below. Fossils in the Redwall include many corals, crinoids, brachiopods and pelecypods. The Redwall limestone is very dense due to having been buried under thousands of feet of rock in the past. Compressive strength of the limestone is in the range of 16,000 to 18,000 PSI (pounds per square inch). That is about 4 to 5 times the strength of reinforced concrete. The rock was very difficult to drill but provided a very good foundation for the cantilevered beams.

The site investigation included surface mapping, core drilling and testing, helicopter inspection of the canyon walls and close inspection of the cliff face using a man cage suspended from a crane at the surface. Rock structure at the initial proposed location at Eagle Point was considered unsuitable because of the open condition and unfavorable orientation of joints in the Redwall. One open joint was 125 feet long and was open as much as 2 ½ feet at the surface. The site was moved about 100 yards further north along the cliff to a more stable part without open fractures. (See below)



Figure 1: Open fracture adjacent to the original proposed site. Photo by John Peck

Karst features (solution features like caves and sink holes) in the Redwall are present hundreds of feet below the site but were determined to be inactive and pose no hazard to the foundation and structure. Eagle Point is named for a feature across the side canyon to the Colorado River along which the Skywalk is situated. The “Eagle” is really a filled sinkhole in the Redwall with its “wings” down folded limestone on the edges of the sinkhole. (See Figure 2) These old karst features in the Redwall limestone are sometimes very rich in Uranium. The Hualapai Reservation contains hundreds of these features. The tribe is not interested in opening up mining ventures.

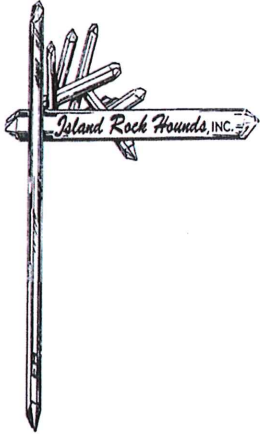


Figure 2: The Eagle from Eagle Point. Photo by John Peck

In the early stages of investigation of the site, it was apparent that updrafts and downdrafts along the cliffs generated significant wind speeds. In August of 2004, anemometers were installed to measure the wind velocity of both vertical and horizontal winds. Within a week of installation vertical wind speeds of 91 miles per hour were recorded. This exceeded the original wind design. The new design accommodated much higher wind velocities and also resulted in incorporating a vibration damping system within the box beams.

The Skywalk itself was constructed on the top of the cliff and then rolled into place using steel rollers, very much like the Egyptians used rollers for constructing the pyramids. It took two days for the operation to be completed. The beams were welded to the top of the foundation piers and then the glass floor was placed on top of the beams. When completed, the Skywalk was opened to the public in March 2007.

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Affiliate Member of:

Eastern Federation of Mineralogical & Lapidary Societies



American Federation of Mineralogical Societies



Purpose and Objective

The purpose and objectives of the Island Rock Hounds, Inc. are to conduct a non-profit, non-political organization to provide the members opportunities for work study and stimulate in the public and membership, scientific and educational interest in geology, mineralogy, paleontology, archaeology and related earth sciences, as as lapidary craftsmanship, gemology, and related subjects, and to offer a cultural and social exchange for persons interested in the aforementioned.

General Membership Meetings

Bellmore Public Library

2288 Bedford Avenue Bellmore, NY 11710

Meetings are held on the second Wednesday of each month (except July & August) at 7:45 PM